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PATENT

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Robert
Response

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF : Patrick Horner
FOR : DUMMY PLUG FOR WIRING HARNESS
APPLICATION NO. : 09/735,006
FILED : December 12, 2000
LAST OFFICE ACTION : November 19, 2002
EXAMINER : Phuongchi T. Nguyen
GROUP ART UNIT : 2833
ATTORNEY DOCKET NO. : 30788.30005

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May 27, 2003

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DateD. M. Zadavec
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PRELIMINARY AMENDMENTCommissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:



Prior to Examining the application in accordance with the Request for Continued Examination, please review the following comments, which are intended to summarize the in person interview with Examiners Nguyen and Bradley on May 6, 2003.

Interview Summary Concerning Dummy Plug For Wiring Harness

A summary of characteristics of one embodiment of the dummy plug was presented in an effort to relay the significance and uniqueness of each element in the design. The characteristics are as follows:

1. The same dummy plug seals and assembles in the male and female halves of the connector. Each of these halves has different geometries.
2. The assembling/insertion force for the dummy plug in to the connector is reasonably low so as to conform to testing standards.
3. The blow out force, or the force that it takes to dislodge the dummy plug from its assembled position, is reasonably high so as to conform to testing standards.
4. The dummy plug contains geometry that can shroud a male terminal when the female terminal is not present. This same feature is able to receive a pogo pin that tests for presence during assembly.
5. The dummy plug is able to seal and survive under harsh environmental conditions.

Two features of the dummy plug, the material and the female end, were the main topics in the interview. The level of importance and uniqueness of these aspects was weighed in accordance with the characteristics and the design as a whole. A further discussion explained why these two facets could not be intuitively incorporated in to JP374482 in view of Fleshman, Bushek, and DeMello.

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The material, (at least) 18 durometer inherently lubricated silicone, plays a significant role in determining the insertion force of the dummy plug (No. 2 above). The softer durometer (hardness) material translates in to lower assembling forces for the dummy plug. For some connectors, this softer material is necessary in order to meet testing specifications. Lubricant on the material is also necessary in order to achieve acceptable insertion forces. In this application, a dummy plug comprised of dry silicone will simply not assemble because of the high frictional resistance. Inherently lubricated silicone or self-lubricating silicone is a unique material that 'bleeds' the lubricant out after the part has been processed. In many cases it is impractical to apply lubricant during the assembly of the dummy plug, so this characteristic of self-lubrication can be invaluable. These properties of the material are novel differences in light of Fleshman and Bushek because neither one discusses a durometer less than 50 and neither one mentions an inherently lubricated silicone, or any lubricant whether it's inherent or applied. Again, both attributes of the silicone play a role in satisfying characteristics 2 and 3, so it is important to point out that Fleshman and Bushek do not discuss these details.

The receptacle on the tip of the dummy plug, or the female end, represents a notable difference from JP374482. This geometry of the dummy plug is relevant in order to satisfy characteristic 4. The female end is strategically designed so that it does not compromise characteristics 1 and 3. Between the female end and the stem body of the plug there is a recessed area that acts as a 'catch'. This feature interacts with a latch finger in the connector, and the resulting assembly helps to prevent the dummy plug from blowing out when the connector halves are mated (No. 3 above). As stated in characteristic 1, the connector halves have different geometries, so the female end (and the dummy plug as a whole) is designed so that the dummy plug assembles correctly in both the female and male connector. For this design, it is not enough to incorporate a female end that only satisfies characteristic 4. The design of this characteristic also allows for a robust 'catch' feature, and promotes a favorable sealing and assembly environment in both halves of the connector.

DeMello discusses a female receptacle and a male dummy plug for a particular storage caddy, but the dummy plug for wiring harness is a dummy plug with a female end that seals a connector. These are two different geometries and applications that share the same

terminologies. Furthermore, because of the added restrictions and requirements of the female end of the dummy plug, it is difficult to make a direct correlation from DeMello to JP37482.

In addition to the above summary, parts/exhibits and drawings were supplied for reference.



Respectfully submitted,

BROUSE MCDOWELL

May 27, 2003

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